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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/749,893	12/29/2000	Robert Palifka	09991-014001	6685

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EXAMINER	
NGHIEM, MICHAEL P	
ART UNIT	PAPER NUMBER
2863	

DATE MAILED: 07/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/749,893	PALIFKA ET AL.
	Examiner	Art Unit
	Michael P Nghiem	2863

-- The MAILING DATE of this communication appears on the cover sh et with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 May 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-65* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *44 and 45* is/are allowed.

6)☒ Claim(s) *1-7,9-12,18-25,28-31,33-36,43,46,52-56,58 and 65* is/are rejected.

7)☒ Claim(s) *8,13-17,26,27,32,37-42,47-51,57 and 59-64* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 6 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

The Amendment filed on May 13, 2003 has been acknowledged.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (e) the invention was described in-
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claim 46 is rejected under 35 U.S.C. 102(e) as being anticipated by Kishima (US 6,109,737).

Kishima discloses all the claimed features of the invention including:

- a method of manufacturing an ink jet printing module comprising:

- contacting a first component (32) of an ink jet printing module (19) having a surface with a thermoplastic bonding component (50);

- contacting a second component (31) of the ink jet printing module including a orifice plate (30) having a surface with the thermoplastic bonding component (Fig. 3);

- adhering a peelable protector strip (251) over an orifice (245) of the orifice plate (column 8, lines 6-10, Fig. 33 shows a hole of 251 being over 245).

Claims 1-6, 9, 10, 12, 21-25, 29, 30, 33, 34, 36, 52, 53, 55, and 58 are rejected under 35 U.S.C. 102(e) as being anticipated by Singh et al. (US 6,361,146).

Singh et al. discloses all the claimed features of the invention including:

- a method of manufacturing an ink jet printing module (Figs. 2, 3) comprising:

- contacting a first component (48) of an ink jet printing module (Fig. 3) having a surface with a thermoplastic bonding component (5), the thermoplastic bonding component having dimensions of a surface of the first component (Fig. 3);

- heating the surface to bond the surface to the thermoplastic bonding component (column 6, lines 43-50);

- applying pressure to the surface and the thermoplastic bonding component (column 6, lines 43-46);

- pressure is applied during heating (column 6, lines 43-50);

- the surface and the thermoplastic bonding component are substantially free of liquid adhesive (Fig. 3);

- a second component (20) of the ink jet printing module having a surface with the thermoplastic bonding component;

- heating the surface to bond the surface to the thermoplastic bonding component (column 6, lines 43-45);

- the first component of the ink jet printing module is a piezoelectric element (column 5, lines 32-34);

- the thermoplastic bonding component has a thickness between 1 micron and 150 microns (column 5, lines 1-5);

- the thermoplastic bonding component has a thickness between 10 micron and 125 microns (column 5, lines –15);

- the thermoplastic bonding component includes an adhesive polyimide (column 4, lines 36-42).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 11, 35, and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Singh et al..

Even though Singh et al. does not disclose that the thickness of thermoplastic bonding is between 20 microns and 50 microns, Singh et al. further discloses that the thickness

of the thermoplastic bonding laminates may vary depending on the desired use of the laminates (column 4, line 66 – column 5, line 1).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the thickness of thermoplastic bonding component of Singh et al. to that as claimed for the purpose of preference for use in ink jet assemblies.

Claims 7, 18-20, 28, 31, 43, 56, and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Singh et al. in view of Kishima.

Singh et al. discloses all the claimed limitations as discussed above.

Singh et al. further discloses that the module includes an orifice plate (Fig. 2).
However, Singh et al. does not disclose:
- the thermoplastic bonding component includes an electrode pattern;
- adhering a protector strip over the orifice plate;
- the orifice plate includes a thermoplastic bonding material adjacent to the protector strip.

Nevertheless, Kishima discloses a thermoplastic bonding component (50) including an electrode pattern (column 16, lines 54-59) for the purposes of bonding and deforming a

piezoelectric element and adhering a protector strip (251) over the orifice plate for the purpose of repelling ink.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide Singh et al. with a thermoplastic bonding component including an electrode pattern and a protector strip adhered over the orifice plate as disclosed by Kishima for the purposes of bonding and deforming a piezoelectric element and repelling ink.

Allowable Subject Matter

3. Claims 8, 13-17, 26, 27, 32, 37-42, 47-51, 57, and 59-64 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Claims 44 and 45 are allowed.

Reasons For Allowance

5. The combination or method as claimed wherein the piezoelectric element is lead zirconium titanate (claims 8, 32, 44, 52) or the piezoelectric element being

positioned to subject ink within the channel to jetting pressure, and electrical contacts arranged for activation of the piezoelectric element (claims 13, 26, 37, 59) or the thermoplastic bonding component is placed over the ink channel and includes a filter (claim 45) or the thermoplastic bonding component includes a plurality of openings (claims 47-49) is not disclosed, suggested, or made obvious by the prior art of record.

Response to Arguments

6. Applicant's arguments filed on May 13, 2003 have been fully considered but they are not persuasive.

With respect to the 35 USC 102 rejections regarding amended claim 46, Applicants argue that Kishima does not disclose adhering a peelable protector strip over an orifice of the orifice plate. The liquid repelling film (251) of Kishima is not peelable and is not adhered over an orifice.

Examiner's position is that the Kishima discloses that the film (251) is peelable. In particular, Kishima discusses that the resistance to peeling of the repelling film is **not required** and the range in which the liquid repelling film was selected could be widened (column 8, lines 5-10). Further, Figs. 25 and 33 show a communicating hole of (251) being positioned over orifice (245, column 36, lines 13-16). Since the communication hole is an element of the film (251), the film (251) may be construed to be adhered over the orifice (245).

With respect to the 35 USC 102, 103 rejections regarding amended claims 1-7, 9-12, 18-25, 28, 29, 30, 31, 33-36, 43, 52-56, 58, and 65, Applicants argue that Singh does not teach contacting a component with a thermoplastic bonding component. The adhesive film of Singh is not a thermoplastic bonding component.

Examiner's position is that Singh discloses a thermoplastic bonding component (adhesive film 5). In particular, in a preferred embodiment of the adhesive bonding laminate (5), the first adhesive film (10) comprises a polycarbonate adhesive film or a polyetherimide adhesive film. The second adhesive film (12) comprises a polyurethane adhesive film, a phenolic butyral adhesive film or a polyester adhesive film (column 4, lines 28-32). Polycarbonate and polyester are examples of thermoplastics.

Applicants further argue that Kishima does not teach or suggest a thermoplastic bonding layer having the dimension of a first component.

Examiner's position is that Singh teaches a thermoplastic bonding layer (5) having the dimension of a first component (48) (Fig. 3).

Applicants further argue that neither Kishima nor Singh teaches a thermoplastic bonding component heat-bonded to a surface.

Examiner's position is that Singh teaches a thermoplastic bonding component (5) heat-bonded to a surface (surface of 48) (column 6, lines 43-50).

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Nghiem whose telephone number is (703) 306-3445. The examiner can normally be reached on M-H from 6:30AM – 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached at (703) 308-3126. The fax phone numbers for

the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-5841 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

MICHAEL NGHIEM
PRIMARY EXAMINER

Michael Nghiem

July 17, 2003